



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/577,355

04/28/2006

Hiroyuki Ikeuchi

51204

5141

1609

7590

03/09/2010

ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P.

1300 19TH STREET, N.W.

SUITE 600

WASHINGTON,, DC 20036

EXAMINER

SASTRI, SATYA B

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

03/09/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/577,355	<b>Applicant(s)</b> IKEUCHI ET AL.	
	<b>Examiner</b> SATYA B. SASTRI	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is in response to amendment filed on 12/23/09. Claims 1-16, 18-22 are now pending in the application.

#### ***Previously Cited Statutes***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1, 4-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brehm et al. (US 2003/0157318 A1).

The rejection is adequately set forth in paragraph 5 of the office action dated 9/24/09 and is incorporated herein by reference.

4. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brehm et al. (US 2003/0157318 A1) as evidenced by Smith et al. (US 5,314,420).

The rejection is adequately set forth in paragraph 6 of the office action dated 9/24/09 and is incorporated herein by reference.

5. Claims 1-16, 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 2004/0214946 A1) in view of Brehm et al. (US 2003/0157318 A1).

Art Unit: 1796

The rejection is adequately set forth in paragraph 7 of the office action dated 9/24/09 and is incorporated herein by reference.

### ***Response to Arguments***

6. Applicant's arguments with regard to the prior art of record have been fully considered with the following: the rejection of claims 18-22 under 35 U.S.C. 103(a) as being unpatentable over Brehm et al. (US 2003/0157318 A1) and the rejection of claims 1-16 under 35 U.S.C. 103(a) as being unpatentable over either Wada et al. (US 6127454) in view of Brehm et al. (US 2003/0157318 A1) or Mertens et al. in view of Brehm et al. (US 2003/0157318 A1) are all withdrawn. However, rejection of claims 1, 4-16 under 35 U.S.C. 103(a) as being unpatentable over Brehm et al. (US 2003/0157318 A1), rejection of claims 2-3 under 35 U.S.C. 103(a) as being unpatentable over Brehm et al. (US 2003/0157318 A1) as evidenced by Smith et al. (US 5,314,420) and rejection of claims 1-16, 18-22 under 35 U.S.C. 103(a) as being unpatentable over Smith et al. (US 2004/0214946 A1) in view of Brehm et al. (US 2003/0157318 A1) are all maintained.

With regard to the obviousness rejection over Brehm et al., applicants argue that (1) the action does not establish a prima facie case of obviousness (2) paragraph 0069 of Brehm et al. discloses generally that the particle size range obtained by screening fractions for use in different products (3) the particle size of finished particles of Brehm et al. are not the same as presently claimed particle size because surface-crosslinking changes the particle size (4) the action does not establish that at least a portion of cyclodextrin is on the surface of the absorbent polymer

Art Unit: 1796

product of Brehm et al. (5) cyclodextrin and cyclodextrin derivative in combination with zeolite as an essential component of the polymer product of Brehm et al. is not inherently the same as the claimed invention and (6) comparative examples in the present specification that substantially correspond to the crosslinked product of Brehm et al. are not substantially the same as the claimed particulate resin.

With regard to (1)-(4), it is noted that Brehm et al. disclose absorbents for water and aqueous liquids comprising water insoluble polymers based on carboxylic acids wherein cyclodextrin or derivative thereof is incorporated ionically, covalently and/or as a result of mechanical inclusion (ab., 0056-0068). The prior art is open to the use of cyclodextrin derivative during the surface, i.e. secondary crosslinking step at the latest (0074,-0089, 0086-0088). Additionally, the amount of cyclodextrin or derivative thereof may be employed in amount of 0.01 to 50% by wt. of absorbent (0053) while the surface crosslinking agent may be present in an amount of 0.01 to 30% by wt. of the polymer (0067). The concurrent treatment of polymer powder (0087) with a surface crosslinking agent and cyclodextrins or derivatives thereof (i.e. as an admixture) must result in surface crosslinked resin particles having cyclodextrin compound on the surface as well as in the interior given that the admixture comprises larger or an equivalent proportion of cyclodextrin compound. As such, applicant's invention as recited in claim 1 does not quantify the amount of polyol compound present on the surface. Additionally, applicants have not provided any evidence to prove that the surface crosslinked particles of Brehm et al. do not contain any cyclodextrin compound on the surface. As noted on page 5 of the office action dated 9/24/09, as a practical matter, the Patent Office is not equipped to manufacture products by

Art Unit: 1796

the myriad of processes put before it and then obtain prior art products and make physical comparisons herewith." In re Brown, 459 F.2d 531,535, 173 USPQ 685,688 (CCPA 1972).

With regard to the particle size, the prior art clearly recognizes the desirability to screen the surface crosslinked particles, **subsequent to secondary crosslinking** (0069) to preferably have a particle size between 150 and 850  $\mu\text{m}$  for use in diapers. One of ordinary skill in the art would aim at obtaining the particles having a particle size between 150 and 850  $\mu\text{m}$  in entirety. Thus, applicant's arguments that the particle size of finished particles of Brehm et al. are not the same as presently claimed particle size because surface-crosslinking changes the particle size are not deemed persuasive.

With regard to (5), it is noted that instant claim 1 recites the limitation "composition contains a tetra-or more functional polyol at least on surfaces". For reasons cited above, examiner maintains that the Brehm et al. disclosure encompasses water absorbent resin particles containing cyclodextrin compound on the surface. Since the present claim language ( as in claim 1) does not exclude any additional component such as a zeolite from the surface, and since the composition as presently recited in claim 1 is obviated by the Brehm et al. reference, the properties as presently claimed in must necessarily be present in the resin particles disclosed in Brehm et al.

With regard to (6), examiner disagrees with applicant's conclusion that the comparative examples in the instant specification substantially correspond to the crosslinked product of Brehm et al. The comparative examples in the instant specification do not include any cyclodextrin compound as taught by Brehm et al.

Art Unit: 1796

With regard to the Smith et al. reference, applicants argue that (1) Smith et al. fails to disclose a particle size of 850 to 150  $\mu\text{m}$ , (2) the action provides no basis for the position that the starch and polyvinylalcohol are present on the surface and (3) the action has fails to establish *prima facie* obviousness.

With regard to (2), it is noted that Smith et al. disclose the use of 0-5% by wt., preferably 0-5% by wt. of water soluble polymers as penetration modifiers (0032). Furthermore, the prior art discloses that the penetration modifiers are added immediately prior to, during or immediately after the surface crosslinking agent. Disclosed water-soluble include completely hydrolyzed polyvinyl acetate and starch or derivatives thereof with starch and polyvinyl alcohol as the preferred species (0036). Given that the presently recited polyol reads on starch and polyvinyl alcohol and given the teaching by Smith et al. that these water soluble additives as penetration modifiers may be added prior to, during or immediately after the surface crosslinking agent, the prior art encompasses water absorbent resin particles that have polyol compounds on the surface as well as in the interior.

With regard to (1) and (3), examiner has relied on the secondary reference to Brehm et al. to teach in the particle size. The secondary reference teaches the desirability of particle size ranging between 150  $\mu\text{m}$  to 850  $\mu\text{m}$  for diaper applications. Case law holds that the selection of a known material based on its suitability for its intended use supports *prima facie* obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.*, 325 US 327, 65 USPQ 297 (1045). Additionally, Brehm et al. disclose that this particle size may be achieved subsequent to secondary crosslinking. Thus, the combination of references to Smith et al. and Brehm et al. teach surface modification of absorbent resin particles with water soluble polymers, i.e. polyols, subsequent to

Art Unit: 1796

the modification by surface crosslinking agent and screening the particles size in the range 150 mm to 850  $\mu$ m.

In light of above, the rejections set forth in the office action 9/24/09 are maintained and the office is made final.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satya Sastri at (571) 272 1112. The examiner can be reached on Mondays, Thursdays and Fridays, 7AM-5.30PM.



Art Unit: 1796

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David Wu can be reached on 571-272-1114.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Satya B Sastri/

Examiner, Art Unit 1796